

Appl. No. : 10/500,494
Filed : December 28, 2002

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 9 at line 20 (¶24 of the published application) as indicated below:

A plasma enhanced atomic layer deposition (PEALD) method has been disclosed in a Korean Patent application ~~KR-02-73473~~, KR 027473 (corresponding to U.S. Patent No. 6,645,574), where a plasma RF power is applied for a given period of time during a source gas supply cycle and repeated this process in order to form a thin layer to a desired thickness. According to the present invention, a barrier layer can be formed by using said plasma-enhanced atomic layer deposition method. According to said plasma-enhanced atomic layer deposition (PEALD) method, a thin layer of film can be formed at a low temperature and the rate of film deposition can be increased by generating highly reactive radicals and ions, thereby such radicals and ions can participate in the reaction even if a source gas with low reactivity is used. In particular, in case that a very thin layer of film is to be formed, under the condition that crystals are formed, said plasma-enhanced atomic layer deposition facilitates nucleation, thereby it increases the density of nucleation, and as a result the substrate can be covered with a thin layer of film without faults. On the other hand, if the density of said nucleation is low, a compactly dense thin film is formed, the crystal grains have to be grown to significantly large sizes, thereby said crystal grains get closely clustered and thus a continuous film is formed. In turn, this process required formation of a thick film in order to form a consistently continuously film. When a metallic film is to be formed, use of a plasma-enhanced atomic layer deposition (PEALD) method is advantageous for covering said substrate with a thin layer of film because crystals are easily formed at a low temperature according to the present invention.